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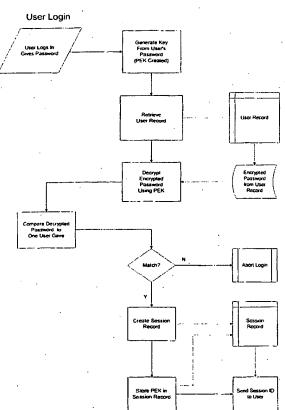
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(54) Title: PASSWORD ENCRYPTION KEY



(57) Abstract: A password-encrypted key (PEK) is generated from a user-supplied password or other identifyting data and then used to encrypt the user's password. The encrypted password is stored in a user record on a server. At login a would-be user's password is again used to make a key, which is then used to decrypt and compare the stored encrypted password with the would-be user's password to complete the login. The successful PEK is stored in a temporary session record and can be used to decrypt other sensitive user information previously encrypted and stored in the user record as well as to encrypt new information for storage in the user record. A public/private key system can also be used to maintain limited access for the host to certain information in the user record.

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A. CLASSIFICATION OF SUBJECT MATTER	1	
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category * Citation of document, with indication, where ap	propriate, of the relevant passages	Relevant to claim No.
X US 5,398,285 A (BORGELT et al.) 14 March 1995,	all	1-10
		1-10
X, E US 6,178,468 B1 (CHALLENER et al) 06 April 200	4, all	1-10
A US 5,611,048 A (JACOBS et al) 11 March 1997, all	•	1-10
A US 5,611,048 A (JACOBS et al) 11 Walch 1997, an	**	
A US 6,370,649 B1 (ANGELO et al) 09 April 2002, al	1	1-10
		1 1 10
A US 6,064,736 A (DAVIS et al) 16 May 2000, all	•	1-10
	•	1-10
A US 5,623,637 A (JONES et al) 22 April 1997, all		
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